Release B1 ASF Installation Plan

Technical Paper

May 1998

Prepared Under Contract NAS5-60000

RESPONSIBLE ENGINEER

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Abstract

This installation plan describes the activities and schedules associated with the installation of ECS Release B first procurement hardware and software at the ASF. The plan is published to document the agreement between the ASF DAAC, and ECS, specifying to the ASF personnel and the ECS installation team the requirements, coordination, and preparation needed to ensure the equipment and software installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. The plan contains a description of the activities, schedule, planned LAN configuration, hardware configurations, and planned equipment layouts.

Keywords: *Installation, Configuration, Equipment, Floor Plan, ASF LAN, Planning, Procedures*.

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1. Introduction

1.1   Purpose

This plan describes the activities and schedules associated with the installation of ECS Release B first procurement hardware and software at the ASF. The plan is published to document the agreement between the ASF DAAC and ECS, specifying to the ASF DAAC personnel and the ECS installation team the requirements, coordination, and preparation needed to ensure the equipment and software installation is accomplished on schedule and with the least possible disruption to ongoing DAAC site operations. The plan contains a description of the activities, installation schedule, planned LAN configuration, hardware configurations, and planned equipment layouts.

1.2   Scope

This plan applies the information obtained from a site survey conducted in April 1998. The plan describes the activities for the installation of the Release B1. It does not address the full Release B requirements that were presented in the Release B ASF Facilities Plan for the ECS Project dated May 1994. That document provided the requirements for space, power, air conditioning and the necessary working environments for equipment and people for the entire Release B hardware that was known at that particular time. Separate Installation Plans will be written at later dates to cover the installation of equipment for later Release B procurements.

1.3   References

423-41-01   ECS Statement of Work, February 16, 1993

193-003-C04-001   ECS Government Furnished Property, September 1993

193-501-PA1-001   Performance Assurance Implementation Plan for the ECS Project

194-302-DV2-001   ECS Facilities Plan for the ECS Project

194-602-OP1-001   Property Management Plan for the ECS Project, July 1994

302-CD-008-001   Release B Facility Plan, May 1996

305-CD-008-001   Release B ASF DAAC Design Specification

402-CD-003-001   Release B System & Segment Integration & Test Plan

409-CD-002-001   ECS Overall Acceptance Test Plan

440-TP-007-001   Production Platform Families for the ECS Project, May 1995

604-CD-001-004	Operations Concept for the ECS Project
604-CD-002-003	ECS Operations Concept for the ECS Project: Part 2B-ECS Release B, March 1996
605-CD-001-001	Release B SDPS/CSMS Operations Scenarios
607-CD-001-002	ECS Maintenance and Operations Position Descriptions
608-CD-001-002	Operation Plan for Release B

1.4   Organization

This paper is organized as follows:

Section 1 provides the purpose, scope, references, organization, and review /approval.

Section 2 provides the schedule and preparation required for the installation.

Section 3 describes the installation activities along with site unique information such as the DAAC Location, Equipment Configurations, Equipment Specifications, Installation Support Requirements, Floor Plans, and LAN Connectivity.

1.5   Review and Approval

This Technical Paper is an informal document approved at the Office Manager level. It serves the function of interface control and documents the agreement between ECS and the ASF DAAC. It requires DAAC review and approval. Questions regarding information contained within this paper should be addressed to Timothy E. Wells, ECS Facilities and Hardware Planner, (301) 883-4021, twells@eos.hitc.com.

Questions concerning distribution or control of this document should be addressed to:

Data Management Office
The ECS Project Office
Raytheon Systems Company
1616 McCormick Dr.
Upper Marlboro, MD 20774-5372

_____

Nettie La Belle-Hamer, ECS Science Liaison Approval Signature and Date.

_____

Tom Jaeger, ECS ILS Manager's Approval Signature and Date.

2. Installation Schedule

2.1 Release B1 Installation Schedule

Release B1 installation activities will be accomplished at the ASF site according to the schedule shown in Table 2.1-1. Similar schedules will be prepared for each of the other Release B procurements and the Release C and D procurements.

Table 2.1-1. Release B1 Installation Schedule

DESCRIPTION	DUR	START	END
Conduct Site Survey	4d	04/06/98	04/10/98
Create Installation Plan	20d	04/10/97	04/30/98
Send To ASF for Review	2d	05/01/98	05/04/98
ASF Review	5d	05/04/98	05/09/98
Comment/Concurrence to ECS (Upper Marlboro, MD)	2d	05/10/98	05/12/98
Finalize Installation Plan	3d	05/12/98	05/15/98
Deliver Installation Plan	4d	05/15/98	05/19/98
ASF To Prepare Site	100d	03/14/97	06/01/98
Installation of Release B LAN	N/A	ASF Responsibility	
Install Release B1 ASF DAAC Equipment	5d	06/01/98	06/05/98
Configure COTS Software	N/A	ASF Responsibility	
Integration and Testing	N/A	ASF/JPL Responsibility	
Hardware Acceptance Testing	N/A	06/03/98	06/03/98

2.2 Installation Hours

It is currently planned that this installation will start on the weekend of May 30, 1998 to avoid movement of large equipment to the work areas during office hours. If this is not satisfactory to the ASF or the University, please advise at the earliest possible date. If installation activities must extend beyond normal work hours, the team leader will coordinate with the Facilities Chief Engineer for after-hours access to the facility.

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The team leader will keep the ECS science liaison informed of work to be performed and report progress at the end of each day. ECS science liaison should keep the DAAC manager informed, as appropriate. If the team leader expects the installation to fall behind schedule, he will inform the ECS science liaison and the ECS ILS Manager.

2.3   Host Facility Preparation

Host facility requirements for the Release B first procurement installation were addressed with the DAAC Managers during site surveys conducted in April 1998. Considering the survey and prior detailed installation planning, host facilities are requested to provide the following in support of this installation:

- Computer floor space identified during the survey.

- Conditioned power, heating, and air conditioning.

- Storage for technical documentation, master copies of COTS SW, and consumables.

- Materials handling equipment; (discussed below).

- Physical security (reference Release B first procurement White Paper, section 2.5.1, page 2-5).

2.4   Host Facility Material Moving Equipment Support

The following material moving equipment will be required to assist with the installation of equipment:

- Tile pullers

- Pallet jack

- Fork Lift

- Hand cart

- Large waste dumpster to dispose of packing materials

3. Installation Activities

3.1   Installation Team Composition

The installation team will be composed of the following personnel:

- Team Leader -- Bob Byrnes.

- Software Engineers – Sarah Lewallen.

- Silicon Graphics Installation Personnel (name to be determined).

- StorageTek Installation Personnel (quantity and names to be determined)..

There are currently no requirements envisioned for members of the ASF DAAC staff to assist in the installation of hardware with the exception of the ECS Science Liaison and the Facilities Chief Engineer. Their responsibilities are noted in other sections in this document.

3.2   Installation Team Responsibilities

The following are ECS installation team member functions:

- Team Leader - Manages and coordinates installation activities and resources to ensure successful completion of the installation on schedule. The team leader will keep the DAAC management informed (through the ECS Science Liaison) of the installation progress.

- Software Engineers – Responsible for the installation of operating systems for the computers that are being installed.

- ECS Science Liaison -- Will coordinate all activities between the DAAC Manager and the Installation Team Leader.

- Vendor Engineers – A Silicon Graphics technicians will install the SGI equipment and software under supervision of the ECS installation team leader. Names of vendor installation personnel will be furnished to the ECS science liaison prior to the installation date.

- Vendor Engineers – StorageTek technicians will install the StorageTek equipment and software under supervision of the ECS installation team leader. Names of vendor installation personnel will be furnished to the ECS science liaison prior to the installation date.

3.3   HW/SW Installation

The installation team will arrive at the DAAC facility at 8:30 AM on the scheduled installation date. Their initial activity will consist of an inbrief to and coordination of schedule with the ECS Science Liaison.

3.3.1   LAN

The installation of cables will be the responsibility of the ASF DAAC. The installation of EBNET (if applicable) will be coordinated with the ASF DAAC through ESDIS and the EBNET contractor. Once EBNET is installed, it will enable the ASF DAAC to communicate with all of the other DAACs that are part of the ECS project.

3.3.2   Installation of SGI Processors, and StorageTek Powderhorn

The SGI equipment and StorageTek equipment will be installed by factory-trained technicians. The vendors' activity at the site will be coordinated and supervised by the ECS installation team leader.

3.3.3   Unit and Integration Testing

Equipment and operating system software will be installed, configured, and tested by the ECS installation team for proper operation and integration with the network and associated peripherals. This preliminary testing is to ensure that the hardware is installed properly and that the hardware is operable.

3.3.4   Network Test to Upper Marlboro, MD. (EDF)

This activity is not part of the initial Release B1 installation.

3.3.5   Equipment Identification

Each piece of ECS hardware that is installed in the ASF DAAC will have a NASA\ECS Project bar-coded equipment sticker attached to it in a visually noticeable location. At the time of installation, the ASF science liaison will be asked to sign an Installation Receipt Report acknowledging receipt and responsibility for the equipment. The ASF is expected to comply with the property management policies and procedures applicable to ECS equipment, as specified in the ECS Property Management Plan, 194.602-011-001.

3.4   Equipment Location Address

The address where the equipment will be installed is :

Geophysical Institute
903 Koyukuk Avenue N. Room 226
University of Alaska Fairbanks
Fairbanks, AK 99775-7320

3.5   Cleanup

The installation team will remove waste material from the installation site daily. All shipping containers and packing materials will be disposed of in the dumpster at the loading dock. The DAAC should provide means for its disposal.

3.6   Team Departure

The installation team will depart the site once tests of the installed hardware has been finished and it has been verified that the equipment is operational, and properly configured. The ECS Science Liaison will then be asked to sign for the installed equipment, operating system software and documentation.

3.7   ASF Equipment Configurations

Figure 3.7-1 identifies the Release B first procurement hardware to be installed at the ASF DAAC. The drawing summarizes the hardware and software configuration for each subsystem.

Figure 3.7-1. ASF Release B1 Configuration

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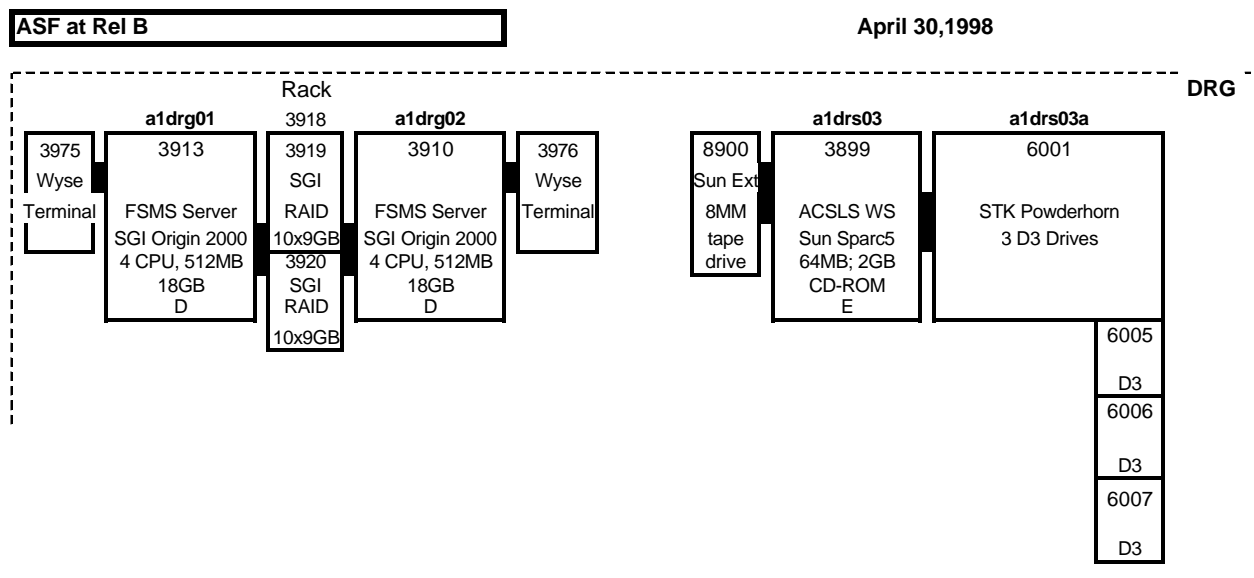
3.8   Installation Support Requirements

Table 3.8-1 identifies the support required from the host site to accomplish the ASF Release B first procurement installation.

Table 3.8 -1. ASF Installation Support Requirements

Qty	Description	Code	Date Req'd
5	4" side cutouts in floor tiles (see note below)	#	June 1, 1998
2	NEMA 5-20R Quad. Receptacles	1	June 1, 1998
4	NEMA L6-30R Receptacles	3	June 1, 1998
4	HUBBELL 320R6W Receptacles	5	June 1, 1998
2	Computer Table 60" x 30"	NA	June 1, 1998
1	Bookcase 3'W x 72"H 18"D (for technical documentation)	NA	June 1, 1998

NOTE: An additional three cutouts are needed for the Powderhorn. Size and location of these cutouts to be determined jointly by ASF and STK and prepared by ASF prior to the Powderhorn installation on May 30, 1998.

3.9   Specifications for Release B First Procurement Equipment

Table 3.9-1 contains electrical, and cooling requirements, dimensions and weight for Release B first procurement equipment.

Table 3.9-1. Equipment Specifications

ID CODE	MODEL	ITEM DESCRIPTION	VENDOR	Type Receptacle	BTUs/HR	Depth (In)	Width (In)	Height (In)	Weight (lbs)	Mfgr KVA	AC Volts	Ck Brk Rating	Phases
12	Powderhorn	STK Library Storage/Control Unit	STK	HUBBELL 320R6W	17099	132	156	93	10301	5.01	208	20	1
48	Origin 2000 Rack	Origin 2000 Rack	SGI	NEMA L6-30R	18772	40	28	73	700	5.5	208	30	1
49	Origin 2000 RAID	Origin 2000 RAID Fiber Channel RAID	SGI	2 x NEMA L6-30R	18772	40	28	73	700	5.5	208	30	1
81	DISK29 SUN	8mm MULTI-DISK	Sun	NEMA 5-20R	683	10	11	6	17	0.2	120	20	1
86	Wyse Model 150	Wyse Terminal	Wyse	NEMA 5-20R	239	12	13	13	25	0.07	120	20	1
119	SUN SPARC 5	SUN SPARC 5	Sun	NEMA 5-20R	1365	17	17	24	107	0.4	120	20	1
133	D-3 Drive Cabinet	D-3 Drive Cabinet	Redwood	HUBBELL 320R6W	2867	22	16	64	300	0.84	208	20	1
135	LMU	LMU	STK	HUBBELL 320R6W	6314	24	29	37	215	1.85	208	20	1
136	MARS UNIT	MARS UNIT	STK	NEMA 5-20R	1638	13	16	9	23	0.48	120	20	1

3.10 Equipment ID Location Table

Table 3.10-1 associates the equipment ID code with the naming convention of the hardware with the type of hardware.

Table 3.10-1. Equipment ID Location Table

ID CODE	EQUIPMENT NAME	EQUIPMENT YPE	LOCATION
86	a1drg01	WYSE TERMINAL	ROOM 226
86	a1drg02	WYSE TERMINAL	ROOM 226
81	a1drg03	8MM Tape Drive	ROOM 226
12	a1drg03	STK POWDERHORN	ROOM 226
119	a1drg03	SUN SPARC 5	ROOM 226
135	LMU	LMU	ROOM 226
136	MARS	MARS	ROOM 226
47	a1drg01	ORIGIN 2000 RACK	ROOM 226
47	a1drg01	ORIGIN 2000 RACK	ROOM 226
48	a1drg01	ORIGIN RAID	ROOM 226

3.11 Floor Plan for ASF

Figure 3.11-1 depicts the planned placement of Release B first procurement equipment in the ASF and identifies the locations at which floor tile cutouts and power receptacles must be placed.
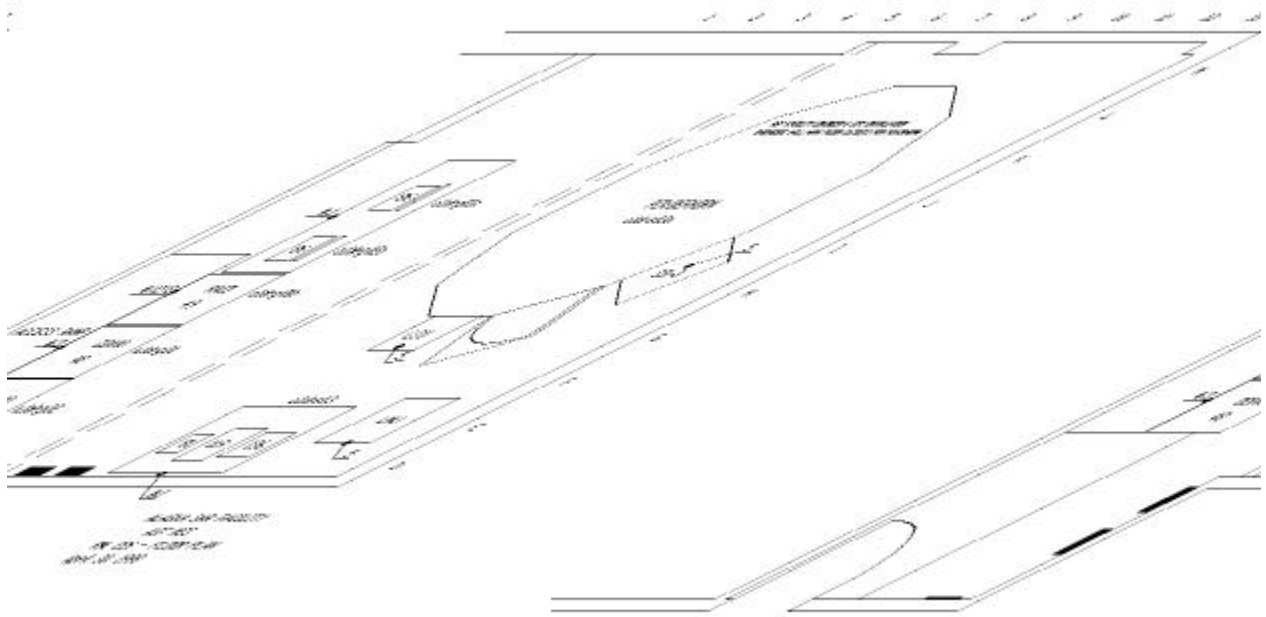

Figure 3.11-1. Floor Plan for B1 ASF

KEY: #,n, 1 (2) = One 4" side cutout floor tile, one network connection (either FDDI or Ethernet), and two (2) NEMA 20 Amp Quad receptacles.

3.12 Power

The electrical power loads for ECS equipment at ASF are listed in Table 3.12-1. Power required is 208/120 volts. This power should be conditioned to protect the equipment from surges and spikes. Specific details (i.e. volts, phases, amps, receptacles) of the power requirements for each equipment item are furnished in Table 3.9-1.

Table 3.12-1 ASF Equipment Power Requirements (KVA)

	Through Release B first procurement
ROOM 226	**24**

3.13 Uninterruptible Power Supply (UPS) Systems

There is no UPS system available at the ASF facility.

3.14 LAN Connectivity

ASF is to provide the LAN connectivity for the equipment being installed.

3.15 Heating, Ventilation, and Air Conditioning

Conditioned air should be supplied under the floor with the raised computer room floor acting as the plenum. The conditioned air should be at positive pressure. Equipment and console cooling should be supplied directly from this plenum or from louvered vents built into the raised floor panels. Ambient room temperatures in the range of 72 ± 2 degrees Fahrenheit and relative humidity in the range of 50% ± 5% non condensing, are required to be maintained within the facility. Equipment cooling requirements for the facility are shown in Table 3.15-1. These requirements are based solely upon equipment and do not include the heating or cooling required for personnel, GFE, and physical space.

Table 3.15-1 ASF Cooling Requirements (KBTU/HR)

	Through Release B first procurement
ROOM 226	**84**

3.16 Temporary Space

Temporary space is not required for this installation.

3.17 Library

Space needs to be designated as a Library area to accommodate ECS technical documentation.

3.18 Media Consumable or Packing Material Storage Areas

It is the responsibility of the Government to furnish areas for media or packing material consumables (i.e. blank 8mm and 4mm tapes, CD ROM disks, packing material for the media consumables).

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Abbreviations and Acronyms

ACM   Access Control and Management

ADC   Affiliated Data Center

ADS   Administration Services

AI&T   Algorithm Integration and Test

AQA   Algorithm Quality Assurance

ASF   Alaska SAR Facility

BODs   Beneficial Occupancy Dates

BOM   Bill Of Materials

BTU   British Thermal Unit

CO1   Change Order 1

COTS   Commercial Off The Shelf

CRUs   Computer Room Units

CACU   cooling and air-conditioning units

CoI   co-investigator

CPU   Central Processing Unit

CSMS   Communications and Systems Management Segment

CSS   Communications Subsystem

CY   Calendar Year

DADS   Data Archive and Distribution System

DAAC   Distributed Active Archive Center

DBMS   Data Base Management System

DCE   Distributed Computing Environment

DCN   Document Change Notice

DID   Data Item Description

DIP   Distribution Processing

DMG   Data Management Group

DNS	Domain Name Service
DRP	Data Repository
ECL	External Communications Links
ECS	EOSDIS Core System
EDC	EROS Data Center
EOC	EOS Operations Center (ECS)
EOS	Earth Observing System
EP	Evaluation Package
ESN	EOSDIS Science Network (ECS)
FDDI	Fiber Distributed Data Interface
FI	Facility Inspection
FIPS	Federal Information Processing Standards
FOS	Flight Operations Segment
GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
HWCI	Hardware Configuration Item
I&T	Integration and Testing
IAW	In Accordance With
ICC	Instrument Control Center (ECS)
ICL	Ingest Client
ISS	Internetworking Subsystem
IST	Instrument Support Terminal
JPL	Jet Propulsion Laboratory
L&EI	LAN and Equipment Installation
LAN	Local Area Network
LaRC	Langley Research Center
M&O	Maintenance and Operations
MHE	Material Handling Equipment

MSS	System Management Subsystem
NOAA	National Oceanic and Atmospheric Administration
NSI	NASA Science Internet
NSIDC	National Snow and Ice Data Center
ORNL	Oak Ridge National Laboratory
PLN	Planning
PSCN	Program Support Communication Network
QA	Quality Assurance
RDBMS	Relational Data Base Management System
RMA	Reliability, Maintainability, and Availability
RRR	Release Readiness Review
SCF	Science Computing Facility
SDPS	Science Data Processing Segment
SEO	Sustaining Engineering Organization
SGI	Silicon Graphics
SOW	Statement of Work
SP	Site Preparation
SPR	Science Processing
SSIT	Science Software Integration and Test
TBD	To Be Determined
TL	Team Leader
TM	Team Members
TRMM	Tropical Rainfall Measuring Mission
UPS	Uninterruptible Power Supply
WKS	Working Storage
WAN	Wide Area Network

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